Ecological Site Description ID:	F231XY151AK

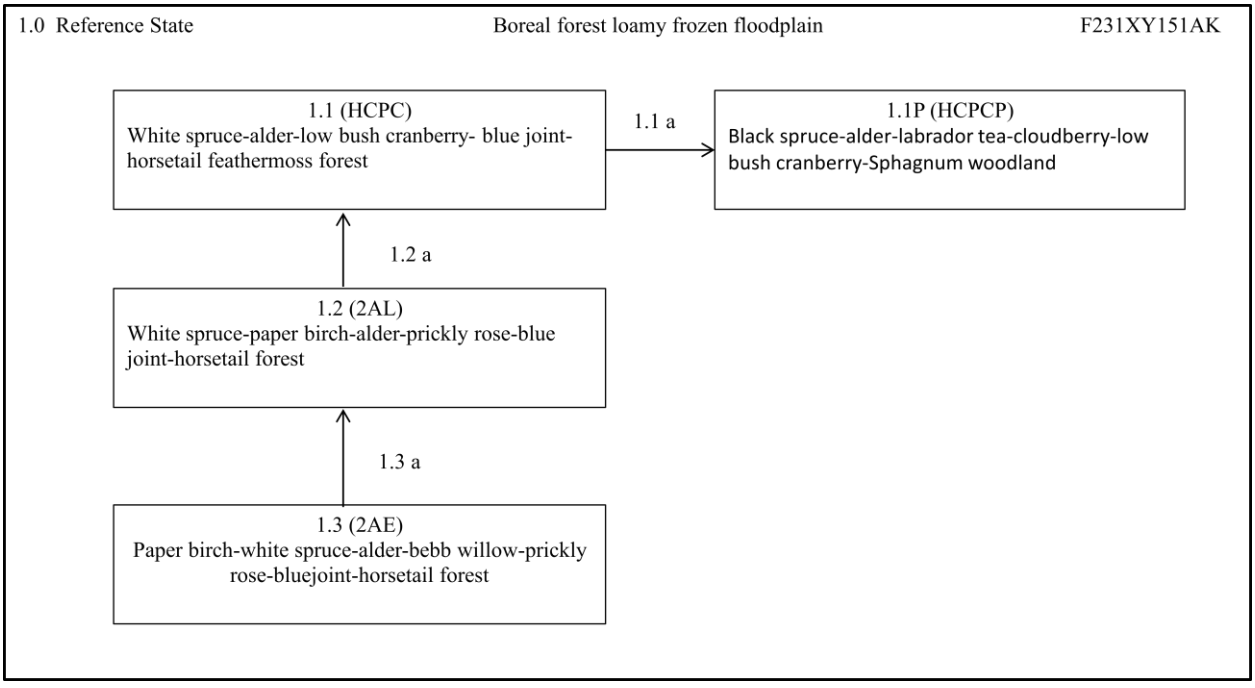
Ecological Dynamics of the Site:

This boreal ecological site is associated with all river systems that experience occasional to very rare flood events with the exception of the Yukon River. Decreased flood intensity and frequency favors the replacement of tall scrubs with tree species marking a successional progression from F231XY130AK (i.e. starting with community phase 1.3). As sites progress from community phase 1.3 to 1.1, surface organic matter and moss cover increases, permafrost rises in soil profile, and tree composition shifts from deciduous to coniferous dominance. For community phase 1.1, soils were classified as haplorthels and were composed of organic material over loamy alluvium.

As flooding becomes very rare, this ecological site begins to shift towards that of a floodplain terrace (e.g. F231XY169AK). Indicators for this shift were decreases in white spruce size and density, increases in frequency and density of ericaceous vegetation and black spruce, and increased likelihood of fire disturbance. Sites that display these indicators were described as post-climax for this ecological site (i.e. community phases 1.1P).

This ecological site was not heavily sampled resulting in 7 total observations.

State and Transition Diagram:



State ID Number:	1	State Name:	Reference

State Narrative:	If flood intensity were to increase removing the tree canopy, then area transitions to ecological site F231XY130. Fire and flooding are disturbances believed to occur in the post-climax community phase. While unique community phases would occur with these associated disturbances, limited sampling occurred for post-climax plant communities. As a result, no additional phases were created in association with the post-climax community.

	Tall trees are defined as growing >40’ in height, medium trees are defined as growing 15-40’ in height, while stunted and regenerative trees are defined as growing less than 15’ in height. Tall shrubs are defined as growing >10’ in height, medium shrubs are defined as growing 3-10’ in height, low shrubs are defined to grow 8” – 3’ in height, and dwarf shrubs are defined to grow less than 8” in height.
Photo 1.1	

Community Phase Number:	1.1	Community Phase Name:	White spruce-alder-low bush cranberry- blue joint-horsetail feathermoss forest

Community Phase Narrative:

Picea glauca is the dominant canopy species. Both *Populus balsamifera* and *Betula neoalaskana* were observed but occur as trace species. Tree cover primarily occurs in the tall tree stratum (~40% total mature tree cover; average white spruce age was 149). Shrub cover is split primarily between the tall and dwarf stratums (~70% total shrub cover) and the most commonly observed species are *Alnus viridis* ssp. *fruticosa*, *Rosa acicularis*, *Arctostaphylos rubra*, and *Vaccinium vitis-idaea*. Graminoids and forbs are abundant (~45% combined cover) and commonly observed species are *Calamagrostis canadensis, Equisetum arvense, Mertensia paniculata, and Pyrola grandiflora. Moss formed an extensive ground mat (~80% cover) and the most common species was Hylocomium splendens.* This phase had two observations.

Community Pathways	
Pathway Number	Pathway Name & Description
1.1a	Normal time and growth without flooding. White spruce forest declines in productivity. Meanwhile, cover of ericaceous plants and black spruce increase. Site begins transitioning to floodplain terrace.

Photo 1.1P	

Community Phase Number:	1.3	Community Phase Name:	Black spruce-alder-labrador tea-cloudberry-low bush cranberry-Sphagnum woodland

Community Phase Narrative:
The tree canopy was primarily composed of *Picea mariana* with *Betula neoalaskana* occurring as a trace species. Tree cover was split between the tall, medium, and regenerative tree stratums (~15% mature tree cover). Shrub cover was split between the tall, low, and dwarf stratums (~110% cover) and the most abundant species sampled were *Alnus viridis* ssp. *fruticosa*, *Ledum groenlandicum*, *Rubus chamaemorus*, and *Vaccinium vitis-idaea*. Forbs, graminoids, and lichens were minor vegetative components. *Sphagnum* moss was abundant (~50% cover). This phase had one observation.

Community Pathways	
Pathway Number	Pathway Name & Description
1.1Pa	Fire and flooding are believed to create unique plant communities for this post-climax community phase. However, limited sampling hindered the ability to develop unique community types.

Photo 1.2	

Community Phase Number:	1.2	Community Phase Name:	White spruce-paper birch-alder-prickly rose-blue joint-horsetail forest

Community Phase Narrative:

Picea glauca is the dominant canopy species and *Betula neoalaskana* is codominate. Tree cover is split between tall and medium tree stratums (~55% total mature tree cover; average white spruce age was 115). Shrub cover is split primarily between the tall and medium shrub stratums (~55% shrub cover) and the most commonly observed species are *Alnus viridis* ssp. *fruticosa*, *Rosa acicularis*, *Viburnum edule*, and *Vaccinium vitis-idaea*. Graminoids and forbs are abundant (~70% combined cover) and commonly observed species are *Calamagrostis canadensis*, *Equisetum arvense*, *Mertensia paniculata, and Pyrola grandiflora*. *Moss formed an extensive ground mat (~40% cover) and the most common species was Hylocomium splendens.* This phase had two observations.

Community Pathways

Pathway Number	Pathway Name & Description
1.2a	Normal time and growth. White spruce forest matures and dominates tree canopy.

Photo 1.3	

Community Phase Number:	1.3	Community Phase Name:	Paper birch-white spruce-alder-bebb willow-prickly rose-bluejoint-horsetail forest

Community Phase Narrative:

Betula neoalaskana is the dominant canopy species with *Picea glauca* being the codominate species. Tree cover is split between the tall, medium, and regenerative stratums (~60% total mature tree cover; average white spruce age was 65). Shrub cover is split primarily between tall, medium, and low shrub stratums (~90% cover) and the most commonly observed species are *Salix bebbiana, Alnus viridis* ssp. *fruticosa*, and *Rosa acicularis*. Graminoids and forbs are abundant (~70% combined cover) and the most abundant species are *Calamagrostis canadensis*, *Arctagrostis latifolia, Equisetum sylvaticum, and Equisetum pratense.* This phase had two observations.

Community Pathways

Pathway Number	Pathway Name & Description
1.3a	Normal time and growth. Deciduous trees begin to be outcompeted by white spruce and begin to be replaced in the tree canopy.